Government of Saskatchewan

Annual Report 2000-2001

Saskatchewan Energy and Mines

102-00018/

Table of Contents

Letters of Transmittal 1
Saskatchewan Energy and Mines Overview 3
Our Vision 3
Department's Mandate 3
Principles 3
Legislation 3
Core Businesses 3
Goals 3
Highlights of 2000-01 4
Plans for 2001-02 5
Department Organization Chart by Function 6
Department Organization Chart 7
Resource Development 8
1. Geoscience Program 8
2. Oil and Gas Reservoirs 11
3. Sale of Crown Oil and Gas Rights 12
Resource Policy 13
1. Resource Development Policy 13
2. Mineral Royalty and Tax Policy 14
3. Oil and Gas Royalty and Tax Policy 14
Energy Planning and Development 17
Resource Revenue Collection 18
1. Revenue Collection Program 18
2. Information Technology Services 18
3. Indian Land Claims 19
4. Oil and Gas Production and Disposition Data 20
Resource Regulatory Programs 21
1. Oil and Gas Environmental and Safety Standards 21
2. Oil and Gas Conservation 22
3. Seismic and Well Licences 23
4. Mine Data and Mineral Statistics 23
5. Crown Mineral Rights 24
6. Administration of Crown Oil and Gas Rights 25
Administration 26
1. Human Resources 26
2. Administration and Financial Services 26
3. Communications 26
4. Accommodation 27
Budget and Actual Expenditures 28
Budget and Actual Revenues 29
Major Saskatchewan Resource Industries Statistical Summary 30

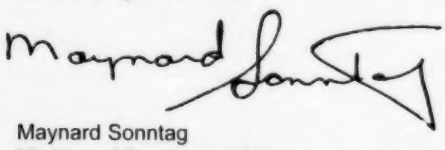
Letters of Transmittal

To Her Honour the Honourable Dr. Lynda M. Haverstock
Lieutenant Governor of Saskatchewan

Dear Madam:

I have the honour to submit the Annual Report of Saskatchewan Energy and Mines for the fiscal year ending March 31, 2001.

Respectfully submitted,



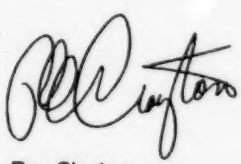
Maynard Sonntag
Minister of Energy and Mines

To the Honourable Maynard Sonntag
Minister of Energy and Mines

Dear Sir:

I have the honour to submit the Annual Report of Saskatchewan Energy and Mines for the fiscal year ending March 31, 2001.

Respectfully submitted,



Ray Clayton
Deputy Minister

Saskatchewan Energy and Mines Overview

Our Vision

Prosperity and economic strength from responsible energy and mineral development.

Department's Mandate

The mandate of the Department of Energy and Mines is to ensure full and responsible development and utilization of Saskatchewan's energy and mineral resources to create jobs and sustain economic activity in Saskatchewan, and to optimize revenues to fund government programs and services.

Principles

- Service to our industry clients.
- Work in partnership to ensure full and responsible development of energy and mineral resources.
- Pursue excellence in all we do. We have a proven record of accomplishment and reliability, reflecting our high standards of quality and innovation.
- Prudently manage the public, financial and other resources entrusted to us so that Saskatchewan taxpayers receive maximum value for their tax dollars.
- We strive to conduct ourselves with the utmost integrity and professionalism.
- Work as a team and continually seek opportunities to nurture trust, communication, and co-operation.

Legislation

The legislated mandate of the department is set out in the following Acts:

- *The Department of Energy and Mines Act* that provides the Minister with the responsibility for the exploration, development, management, and conservation of non-renewable resources and the development, management, and conservation of energy.
- *The Oil and Gas Conservation Act* that allows the orderly exploration for, and development of, oil and gas in the province and optimization of recovery of these resources.
- *The Crown Minerals Act* that allows for the leasing of Crown mineral rights and provides authority to collect royalties on Crown dispositions.
- *The Freehold Oil and Gas Production Tax Act* that provides the authority to tax freehold oil and gas in the province.
- *The Mineral Taxation Act, 1983* that provides authority to tax mineral production and mineral rights.
- *The Mineral Resources Act, 1985* that provides for the orderly exploration, development, conservation, management, and primary production of mineral resources in Saskatchewan.
- *The Pipelines Act, 1998* that provides the authority regarding the construction, operation, and abandonment of oil, natural gas, and other pipelines.

Core Businesses

Resource Development – To provide exploration and geological data, studies, maps, and analysis of Saskatchewan's resources to assist in and to stimulate the development of oil, gas and mineral resources, and to sell Crown oil and gas rights.

Resource Policy – To provide analysis and recommendations regarding the impact of policies, legislation, and regulation on market trends, royalty/tax systems, research and development on industry performance in order to ensure optimal resource development and to promote and protect Saskatchewan's interests in intergovernmental issues involving the resource sector.

Energy Planning and Development – To develop policies and programs to encourage the responsible use of energy and the efficient and effective delivery of energy services in Saskatchewan, and to monitor and analyze market trends, industry performance and regulatory initiatives in the energy sector.

Resource Revenue Collection – To ensure the timely and optimal collection of revenues owing to the government from the development of Saskatchewan's energy and mineral resources.

Resource Regulation – The licensing, inspection and setting of guidelines for drilling and operation of oil and gas wells to ensure that industry activities are conducted in a safe, environmentally sound and responsible manner, regulating seismic activity, and the disposition and administration of Crown mineral, oil and gas rights.

Administration – To provide human resource, financial, communications, procurement, and accommodation services for the department.

Goals

Energy and Mines has the following goals:

- Optimal development of energy and mineral resources.
- Responsible use and delivery of energy in Saskatchewan.
- Effective client and public services.

Highlights of 2000-01

2000-01 saw a number of significant accomplishments by Saskatchewan Energy and Mines.

The department announced a series of initiatives designed to assist the mineral exploration industry and develop the province's mineral resources:

a) An exploration tax credit of 10 per cent for investors in grassroots exploration using flow-through shares.

a) An enhanced geoscience program of $920,000 per year.

b) Revised regulations for mineral dispositions

c) Establishment of a joint industry-government committee to address a number of regulatory issues.

d) A reduction of fees for mineral exploration permits by 50 per cent.

The first four maps in the Regional Subsurface Mapping Series were published to assist the petroleum industry in the exploration for oil and gas.

Three large partnered geoscience research projects were initiated. Two projects entailed airborne geophysical surveys and geological mapping in the northern most part of Saskatchewan. The third focused on developing an improved understanding of the context of uranium mineralization in the Athabasca Basin to maintain its preeminent exploration attractiveness.

The royalty and tax provisions that apply to incremental oil from the Weyburn Unit CO_2 project were extended for all future carbon dioxide (CO_2) projects implemented in the province.

The department, working with the Petroleum Technology Research Centre and Natural Resources Canada, played a major role in creating a project to monitor the injection of CO_2 into the Weyburn oilfield. This project, with an estimated value of $20 million, brings international expertise and funding to bear on a Saskatchewan reservoir. The intent is to understand more about CO_2 enhanced oil recovery and the sequestration of CO_2 as a greenhouse gas.

The department continued to work with other provinces, territories, and the federal government on the development of a plan to guide Canada's response to the climate change issue. This resulted in the release of a National Climate Change Response Strategy, a first national business plan and a report on activities under way in Canada to reduce emissions. Saskatchewan contributed to this listing.

The department played a significant role, working with Alberta, Manitoba, and Natural Resources Canada, in the creation of the Prairie Adaptation Research Collaborative. This organization evaluates the impacts of climate change in the Prairies and recommends adaptation measures.

The department was instrumental in establishing the International Test Centre for Carbon Dioxide Capture and Sequestration at the University of Regina. The Test Centre includes a bench scale lab at the University and refurbishment of a commercial scale pilot plant at the Boundary Dam power station.

The department collected a record amount of non-renewable resource revenues in 2000-01 due largely to the recovery in oil and natural gas prices and the continued strength of the potash industry.

A record number of natural gas wells were drilled in the province in 2000 and a new record was also established for oil production in 2000.

A comprehensive orphan program was developed to address the liability for abandonment and reclamation of oil and gas wells and facilities. An industry-government committee recommended various amendments to *The Oil and Gas Conservation Act* to provide the necessary legal framework for a comprehensive orphan program in Saskatchewan.

Energy and Mines participated in a review of oil and gas regulatory approval processes conducted by the Business Services Improvement Branch of Economic and Co-operative Development. The objective of the exercise was to improve the ability of government to respond to various industry exploration and development initiatives.

Several oilfield operating guidelines were either updated or introduced during the year.

Energy and Mines, along with several other departments, assisted the RM of Maple Creek in reviewing environmentally sensitive areas within the Cypress Hills to determine lands which should be excluded from oil and gas development.

A new compliance enforcement system was introduced to improve the timeliness and accuracy of reporting oil and gas production and disposition data.

Amendments to *The Freehold Oil and Gas Production Tax Act* were prepared to incorporate provisions for the taxation of recovered crude oil (oil recovered from waste processing facilities and skim oil facilities where the oil was not previously measured as production and therefore not subject to royalty or tax).

Plans for 2001-02

The department will continue working with the Information Technology Group and Information Services Corporation to make more of our information available on-line in a Geographic Information System format.

The department will start implementing a co-operative Geological Mapping Strategy to better our understanding of Saskatchewan's geological potential, and to improve the ways in which resulting information is made available to industry so that increasing energy and mineral exploration and development are encouraged.

The department will continue to take both leadership and active research roles in the International Energy Agency's Weyburn CO_2 Monitoring and Storage Project.

The department will continue to work with the provinces, territories, and the federal government on the implementation of actions to reduce greenhouse gas emissions in Saskatchewan and Canada. It will also assess the impact on the Saskatchewan economy of various initiatives aimed at greenhouse gas reductions. Consultations with stakeholders will continue to ensure programs and actions make sense for the province.

The department will continue to support research projects to develop new technologies for the capture and sequestration of greenhouse gases.

The department will work with other provincial departments and the energy Crowns to develop a program based response to rising energy prices. The program will encourage the implementation of energy saving and alternative energy initiatives throughout the province and will provide climate change benefits by reducing emissions of greenhouse gases.

The department will provide policy advice on options for Saskatchewan as the electricity industry in North America undergoes transformation.

The department will be consulting with the oil industry to develop the regulations and the tax system that will be applied to recovered crude oil. This crude oil was never measured as production from a well for Crown royalty and freehold production tax purposes.

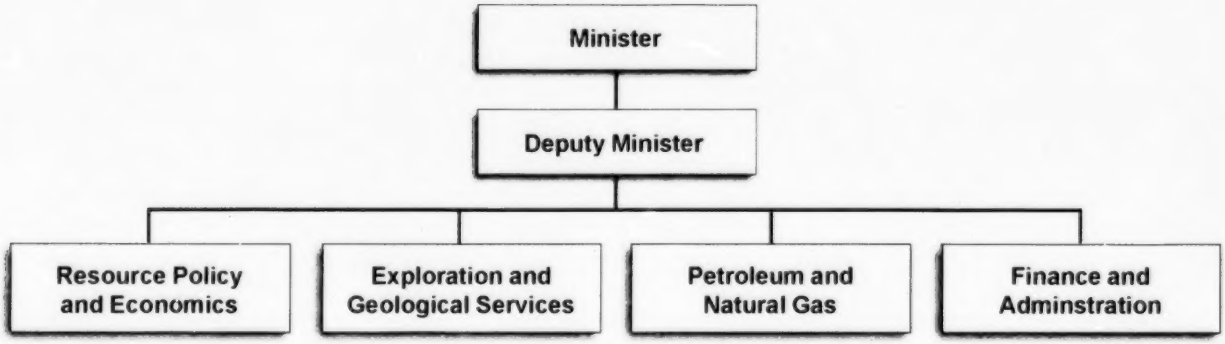
The department will develop amendments to *The Oil and Gas Conservation Regulations* to incorporate the necessary provisions for Saskatchewan's expanded oil and gas orphan program. Additional staff will be hired to administer this program.

As part of the expanded orphan program, the department will be licensing all existing oil and gas facilities in the province. A database of required information will be established to facilitate this initiative.

Work is continuing on our efforts to reduce overlap and duplication of uranium mining and milling regulations between the federal and provincial governments that add to the cost of operating these facilities in Saskatchewan. A comprehensive review of the uranium royalty system should be completed in 2001-02.

The department is continuing to develop a strategic plan that will outline its vision, principles, goals, objectives, and performance measures for the upcoming fiscal year.

Department Organization Chart by Function



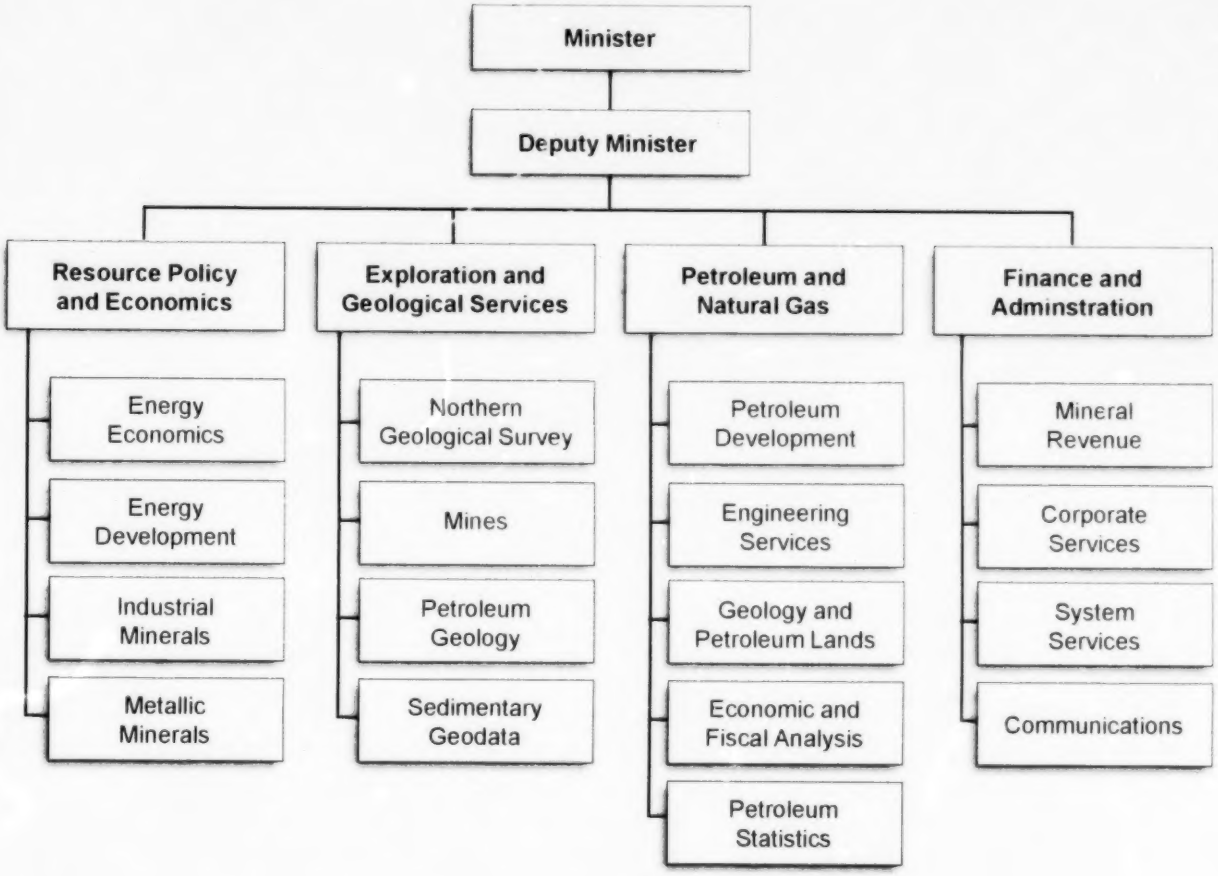
- Resource Development Policy
- Energy Policy
- Energy Management
- Coal, Industrial, and Metallic Minerals Fiscal Systems
- Climate Change Policy and Initiatives

- Geoscience Programs
- Resource Assessment and Statistics
- Crown Mineral Rights
- Technical Reports and Map Production
- Core Laboratories
- Well Information System and Assessment Reports

- Oil and Gas Fiscal Systems
- Oil and Gas Environmental and Safety Standards
- Oil and Gas Conservation
- Seismic and Well Licences
- Crown Oil and Gas Rights
- Oil and Gas Production and Disposition Data
- Oil and Gas Reservoirs
- Oil Forecasting

- Human Resources
- Administration and Financial Services
- Communications and Publications
- Treaty Land Entitlement
- Mineral Rights Ownership Records
- Revenue Collection
- Information Technology
- Accommodation

Department Organization Chart



Resource Development

The resource development program is designed to encourage the discovery and development of energy and mineral resources in Saskatchewan. Resource development is the largest and highest priority activity the department carries out. The program involves the following activities:

- conducting field projects including regional geological mapping, and site-specific studies of mineral deposits. These investigations assist the mineral industry in the search for new mineral deposits.
- maintaining and updating data files, converting data into geographic information system (GIS) compatible formats, and the use of digital technology for map production.
- extracting geological information submitted for newly drilled oil and gas wells and adding the information to the department's computerized well information system. The data are used to improve knowledge of Saskatchewan's geology and to promote areas and geological formations likely to contain economic accumulations of petroleum and natural gas.
- subsurface geological mapping and related studies to help the oil and gas industry explore for new oil and natural gas fields.
- cataloguing and storing drilling core and samples of drill cuttings for analysis by industry and research geologists to guide exploration and investment decisions.
- evaluating oil and gas reservoirs and wells to determine reserves for the purpose of optimizing development and to guide policy decisions on energy supply and demand.
- selling Crown oil and gas rights for exploration and development of energy resources.

Without continued investment in exploration and development, resource production would decline and along with it the economic benefits of this resource development in terms of jobs, income and government revenues.

Resource development is strongly affected by commodity prices and world-wide supply and demand factors. As such there are constraints on the ability of the government to achieve a particular outcome.

1. Geoscience Program

a) Northern Geoscience

The northern geoscience program provides information through field projects including regional geological mapping, and site-specific studies of mineral deposits. These investigations assist the mineral industry in the search for new mineral deposits in northern Saskatchewan. They are also required in land-use planning to ensure that high mineral potential lands remain available for exploration while facilitating the establishment of representative ecological areas and parks. Where possible, collaborative research programs are undertaken with the Geological Survey of Canada (GSC) and partnered with the National Sciences and Engineering Research Council (NSERC) supported university research.

Major Activities and Results:

- Two large airborne geophysical surveys were completed in the northern most part of Saskatchewan: one in the Uranium City area in the northwest and the second in the Phelps Lake area in the northeast. Both airborne surveys received funding through the Geological Survey of Canada's Targeted Geoscience Initiative and Saskatchewan Northern Affairs from the provincial Centenary Fund. The department also completed ground geological mapping in the Uranium City area. This work will help in evaluating mineral potential and aid in evaluation of three large Representative Areas Network (RAN) sites.
- The EXTECH IV Athabasca Uranium Multidisciplinary Study is a multidisciplinary study of uranium mineralization in the Athabasca Basin. The purpose of this work is to develop new exploration technologies to maintain the Athabasca Basin as the most attractive place in the world to explore for uranium. In addition to the department, other funding partners include the Geological Survey of Canada, Alberta Geological Survey, COGEMA Resources Inc., and Cameco.
- The fifth and final year of mapping was completed on the La Ronge – Lynn Lake Bridge project, a co-operative project with the Geological Survey of Canada, that is improving understanding of the region that joins mineral producing areas in Saskatchewan and Manitoba.

b) Southern Geoscience

The southern geoscience program focuses on research, mapping and studies on industrial minerals and diamonds in the southern part of the province.

Major Activities and Results:

- Work continues on the compilation of a database of diamond indicator chemistries from surveys of some 1,600 sample locations and 27,000 individual analyses. When published as a searchable web-based data file, users will be able to search for and download mineral chemistries and field data for specific areas of the province.
- Work continued on a study of Saskatchewan's sodium sulphate deposits. The study is a co-operative venture with the University of Saskatchewan, University of Alberta, sodium and potassium sulphate producers, and other agencies. The study is partially funded by a grant from The Strategic Initiatives Fund, administered by Saskatchewan Economic and Co-operative Development.

- Work continued on a brine sampling program to assess the potential to support a brine-based chemical industry. Earlier work indicated that Saskatchewan's brines contain economic concentrations of bromine, iodine, lithium, and magnesium.

c) GIS and Database Development

Database development continued to focus on maintaining and updating existing data files, converting data files into geographic information system (GIS) compatible formats, and on the use of digital technology for map production.

The department also collects and catalogues technical data on mineral exploration of the province's resources. The technical information is put into the Saskatchewan Mineral Assessment File, which is an important database for mineral exploration and land-use planning.

Mineral occurrence data is kept in the Saskatchewan Mineral Deposits Index and is used to compile maps that provide an appraisal of mineral resource potential.

Major Activities and Results:

- Digital map and database of magmatic Ni-Cu and PGE occurrence related data were jointly released with the Geological Survey of Canada on CD-ROM.
- Version 3 of the Geological Atlas of Saskatchewan CD-ROM, which is available with included viewing/query software, contains several geoscience data files linked to the Geological Map of Saskatchewan in GIS format. Updated and new data files will be added to the CD-ROM for annual release.
- Detailed gravity data of southern Saskatchewan was jointly released with the Geological Survey of Canada on CD-ROM.
- GIS development and digital data warehouse for EXTECH IV Athabasca Uranium Project.
- Conversion of the Saskatchewan Mineral Assessment File into GIS format. A complete set of attribute data is available on CD-ROM.
- Staff participated on a federal-provincial committee looking at implementing a national Internet-based network to access geoscience data from federal and provincial agencies.

Impacts:

- The introduction of digital technology will allow immediate and global access to the department's geoscience database.
- A total of 181 new assessment files were incorporated into the Saskatchewan Mineral Assessment File bringing the total number of records on hand to 8,837.
- Twenty-one records were added to the Saskatchewan Mineral Deposits Index, which raised the total records to 2,931. Visits to the Mineral Deposits Index on the department's web site totalled 5,553, an increase of 16 per cent from last year.

d) Mineral Resource Assessment Program

A mineral resource assessment program was initiated in 1996 in response to land-use planning requirements in the province. The assessments of mineral potential are conducted with a structured qualitative methodology that employs defined criteria. The methodology has been evaluated and approved by the mineral and oil and gas industries.

A Memorandum of Understanding (MOU) with Saskatchewan Environment and Resource Management (SERM) formalized the use of mineral resource assessments and industry review of land-use proposals as part of the planning process.

A number of 1:250,000 scale resource assessments were carried out in 2000-01 in response to Representative Areas Network (RAN) site proposals and to regional land-use plans that are being developed in many areas of the province. To date mineral resource assessemnts have been completed at this scale for the northern two-thirds of the province and for two map sheets in the south.

Major Activities and Results:

- Following discussions with SERM, industry, and the general public, seven new RAN sites were designated in 2000. These include six sites in the Amisk-Atik land-use plan area, and one site on the east shore of Smoothstone Lake. Discussions on potential RAN sites with SERM and industry have been completed on two sites in the Dore-Lac La Plonge area. Discussions continue on three large site proposals in the far north, two large site proposals in the Foster Lake region north of La Ronge, a large site proposal in the Firebag Lake area, and a small site proposal in the Fort a la Corne area. The public will review most of these RAN site proposals through regional land-use planning processes.

Impacts:

- Completion of mineral resource assessments has allowed the identification of areas of significant mineral potential as part of the land-use planning process in the province. This is extremely important to ensure that those candidate land-use areas, with proposed restrictions on exploration and development activities, do not conflict with areas of significant mineral potential or known resources.

e) Sedimentary Geology Data and Studies

The department extracts geological information submitted for newly drilled wells under *The Oil and Gas Conservation Regulations, 1985* and adds the information into the department's computerized Well Information System (WIS). Staff enhance the value of this data through their research and interpretation that assist and encourage exploration activity by the oil and gas industry. The data are used to improve our knowledge of Saskatchewan's subsurface geology and to promote areas and geological formations likely to contain economic accumulations of petroleum. Due to high levels of oil and gas drilling activity during the 1990s through to present, the department has been unable to keep its well information system up-to-date. Efforts to reduce the backlog continue.

Major Activities and Results:

- Extensive support, including contributed papers and technical editing, was given to preparing Volume 1 of the Summary of Investigations 2000 released at the 8th International Williston Basin Horizontal Well Workshop. The first four maps in the Regional Subsurface Mapping Series were released at this workshop.
- Focus was reassigned to completing the Mannville Report as a digital product which is expected to be highly useful to industry explorationists interested in developing new models, especially in west-central Saskatchewan.
- In collaboration with the Petroleum Technology Research Centre, PanCanadian Petroleum Ltd. and a diverse group of international geoscience agencies, the department established a major research project to monitor what happens to carbon dioxide after it is injected into the Weyburn oilfield as part of an enhanced oil recovery program. The department played a lead role in the geological component of this project which will help establish international standards for the sequestration of carbon dioxide in carbonate rocks.
- Collaborative international research continues to provide new insights into the potential for further discoveries of shallow gas in the southwest part of the province.
- The department took a major role in an inaugural meeting between provincial and federal geoscience agencies active in the Western Canada Sedimentary Basin. This led to the formation of a committee which will continue to meet annually to review geoscience work in progress to ensure inter-agency collaboration and co-operation are maximized.
- Continuing high oil and gas prices led to a further increase in wells drilled. The department's backlog of well data to enter into the Well Information System grew by four per cent to 7,162 wells due to this increased drilling activity. The department continued to take steps to improve the timeliness of data submissions by industry.
- Stratigraphic information was processed from 3,226 wells and added to the Well Information System. The backlog of stratigraphic data to process now stands at 707 wells, a decline of 76 per cent from 1999-2000.
- Seismic activity leveled off. A total of 320 seismic plans were approved comprising of 15,400 kilometres.
- Well files were accessed in approximately the same quantities as in 1999-2000: 100,000 times to retrieve data for industry and government, 35,000 times by staff, 55,000 times by industry, and 10,000 times by other government personnel.

f) Core and Sample Storage and Examination Facilities

The Subsurface Geological Laboratory in Regina catalogues and stores cores and samples of drill cuttings submitted under *The Oil and Gas Conservation Regulations, 1985*, and houses the offices of the Petroleum Geology staff. The cores and samples are available for examination or analysis by industry and research geologists. The Precambrian Geological Laboratory in La Ronge houses both the offices of the resident geologists and the mineralized core collection, a valuable database for mineral explorers and geological research workers. Interim measures were taken to deal with the space shortage in the La Ronge facility.

The resident geologists in La Ronge and Creighton monitor the mineral exploration industry in northern Saskatchewan and provide up-to-date information on exploration and mining activities and opportunities. The La Ronge office maintains files on current mineral claims, topographic maps, air photos, geological maps and reports, and assessment work submissions. The Creighton office has current claim maps.

Major Activities and Results:

- New cores were received from 295 wells totalling 4,482 boxes of core. This brings the total number of boxes in the library to 339,590.
- New samples of drill cuttings were processed from 1,027 wells, bringing the total number of vials in storage to three million.
- Geologists from 203 different organizations spent 1,401 person-days examining geological material stored in the Regina laboratory. In addition, almost 4,718 boxes were dispatched for outside analysis at the request of customers.

g) Other Geological Services

Geoscientific reports and maps were edited, produced and sold to industry and the general public. The department has moved to a more cost-effective print on demand process for some of its products. Some products are now in a totally digital format.

The Horizontal Well Workshop is the major forum at which oil and gas agencies present results from their current projects. Organizations presenting information included: Saskatchewan Energy and Mines; the Geological Survey of Canada; the United States Geological Survey; the Iowa Geological Survey; the Alberta Geological Survey; numerous universities and colleges; and exploration companies and

consultants within Canada and the United States. The Summary of Investigations 2000, Volume 1 contained 12 papers outlining these projects.

The annual Saskatchewan Geological Open House is the major forum at which geoscience agencies and the mining and mineral exploration industry present results from their current projects and research to each other and the general public.

Organizations presenting information included Saskatchewan Energy and Mines, the Geological Survey of Canada, the Saskatchewan Research Council, geology departments of the universities of Saskatchewan, Regina, Alberta, Calgary, and Notre Dame, Laurentian University, and the mining and mineral exploration industries. The Summary of Investigations 2000, Volume 2, contained 24 papers summarizing this research.

h) Public Information and Education

The objective of the public information program is to promote awareness of Saskatchewan's mineral and energy industry and our significant resource potential among the general public and to the mining and exploration industry outside the province. This is achieved by responding to specific inquiries, producing and distributing educational materials, developing and exhibiting promotional displays for major exhibitions, and publishing articles in trade magazines.

Major Activities and Results:

- Displays illustrating Saskatchewan's mineral resources and potential, and the activities of the department and the mineral industry, were exhibited at the Prospectors' and Developers' Association of Canada (PDAC) convention in Toronto.
- Several members of staff taught parts of a two-day EdGEO Workshop for K-12 educators who teach earth science in their classrooms, and organized a trip for 16 Saskatchewan educators to attend a special session, including field trips of GeoCanada 2000 in Calgary. In addition, staff assisted the Saskatchewan Mining Association in conducting a five-day teachers' mine tour to show teachers first-hand all types of mining activity in the province. The department also hosted tours of its Regina core lab.
- Members of the department are spear-heading a team of Saskatchewan scientists in the compilation of a poster, Geoscape Southern Saskatchewan, designed for enhancing public awareness of the impact of geological processes on the landscape and economy of the southern part of the province. The poster is to be produced in collaboration with the Geological Survey of Canada.

2. Oil and Gas Reservoirs

The oil and gas reservoir assessment program evaluates oil and gas reservoirs, wells, and projects to determine reserves for the purposes of encouraging and facilitating resource development. Reservoirs and wells are also assessed when evaluating industry proposals for horizontal drilling, waterfloods, enhanced recovery, waste water disposal wells, off-target wells, commingling, unitization, and pipelines.

The reserve data is used extensively by the government in making policy decisions on energy supply and demand. These data are also used by the oil and gas industry in making investment decisions.

Industry applications are assessed promptly to ensure investments are not delayed.

The mandate for this program comes from:

- *The Oil and Gas Conservation Act;*
- *The Crown Minerals Act;* and
- *The Pipelines Act, 1998,* and their respective regulations.

Major Activities and Results:

- 1999 reserves were reviewed and published. The review showed an increase in initial oil reserves of 18.8 million cubic metres and similarly, an increase in initial gas reserves of 5.2 billion cubic metres. At the end of 1999, there were remaining oil reserves of 173.0 million cubic metres and remaining gas reserves of 71.4 billion cubic metres.
- Remaining reserve estimates for 2000 (as shown in Figures 1 and 2) show an increase for oil and a slight decrease for gas from 1999.
- More than 1,100 applications for various projects such as horizontal drilling, waterfloods, enhanced recovery, waste water disposal wells, good production practice, off-target wells, commingling, unitization, and pipelines were reviewed.
- As shown in Figure 3, the approval of industry applications resulted in the drilling of 490 horizontal wells in 2000, representing $343 million in investment.
- One hundred applications for new or expanded waterfloods, and enhanced oil recovery projects resulted in significant investments in new facilities with great potential for increases in oil production. The 115 waste water disposal well application approvals allowed for more efficient and economical operation of oil facilities in an environmentally responsible manner.
- One hundred and thirty-two pipeline licences were issued in 2000 providing for new investments and more efficient transportation of oil and natural gas.

Figure 1 - Remaining Oil Reserves

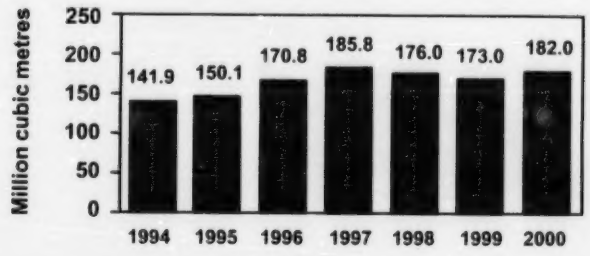


Figure 2 - Remaining Gas Reserves

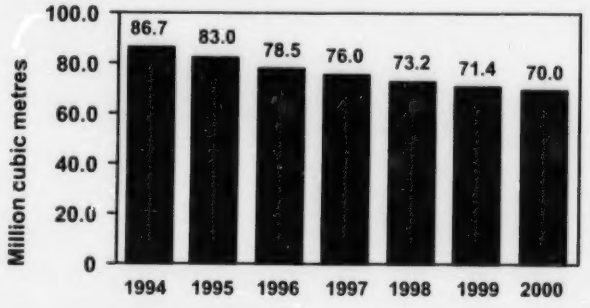
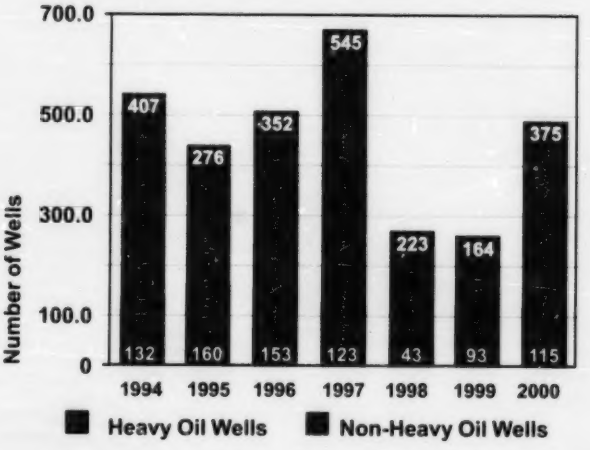


Figure 3 - Horizontal Wells



3. Sale of Crown Oil and Gas Rights

The province develops oil and gas mineral rights by selling the use of those rights to industry for exploration and development. The disposition of Crown oil and gas rights to industry is in the form of special agreements, special exploratory permits, exploration licences, permits, and leases. Specific lands requested by oil and gas companies are advertised in six sales held during the year. The successful bidders in the sale are awarded the rights which permit companies to explore for and to produce oil and gas.

The mandate for this program comes from:

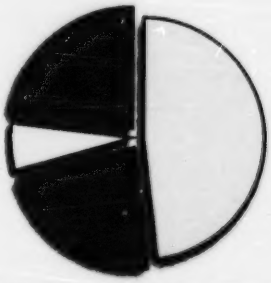
- *The Crown Minerals Act*; and
- *The Petroleum and Natural Gas Regulations, 1969* that provide the authority for disposition of Crown oil and gas rights by the sale process.

Major Activities and Results:

- Six sales held in 2000-01 resulted in revenues of $55.27* million. Revenue derived from the sale of petroleum and natural gas rights is shown in Figure 4.
- Mineral rights disposed of during the fiscal year totalled 367,795 hectares. This consisted of one special exploratory permit containing 79,140 hectares, 21 exploration licences covering 58,501 hectares, and 1,512 lease parcels containing 230,154 hectares.
- Leases sold as a result of deeper rights reversion totalled 24,101 hectares bringing in bonus bid revenues of $5.4 million or 10 per cent of sale revenue for this time period.

Figure 4 - Revenue Received from Sales of Crown Petroleum and Natural Gas Rights 2000-01

	$ Millions
Lloydminster	24.62
Kindersley	12.63
Swift Current	6.20
Estevan	11.82
Total	**55.27***



* *Excludes negotiated leases and lease conversions occurring throughout the year accounting for $0.43 million in bonus bid revenues.*

Resource Development Resources:

Salaries	$3,822,200
Operating	1,003,700
Total	**$4,825,900**

78.7 FTEs

Resource Policy

Resource policy activity is aimed at maintaining the competitiveness of Saskatchewan's fiscal and regulatory systems in order to encourage and sustain a viable and growing energy and mineral industry. It also ensures a fair return to the province in terms of jobs, economic activity and government revenues to fund programs and services. Policies and programs are also developed to encourage enhanced energy resource production through technological innovation. Active participation in federal-provincial forums can ensure that the province's interests are considered and measures taken to mitigate against negative impacts of domestic or international trade agreements and/or federal policy on the energy and mineral sectors in Saskatchewan.

Resource policy encompasses the following functions:

- analysis and recommendations on legislative, regulatory and policy changes in response to changing trends and emerging issues to ensure continued responsible development of the province's energy and mineral resources;
- liaison with industry on emerging issues of mutual concern;
- represent provincial interests in federal-provincial negotiations on domestic and international issues such as federal tax and regulatory policy, and domestic and international trade agreements that impact on the oil, gas, and mineral resource sectors; and
- design, implement, and review royalty and tax systems for oil, gas, potash, uranium, gold, base and precious metals.

The mandate for this program comes from:

- *The Mineral Resources Act, 1985* that provides authority with respect to the exploration, development, management, and conservation of mineral resources;
- *The Crown Minerals Act* and *The Freehold Oil and Gas Production Tax Act* that provide the authority for regulations respecting royalties and taxes for oil and gas;
- *The Oil and Gas Conservation Act* that provides the authority to implement natural gas policy; and
- *The Department of Energy and Mines Act* that provides authority with respect to the development, management, and conservation of energy.

1. Resource Development Policy

Major Activities and Results:

- The department was instrumental in guiding the continued development of the Petroleum Technology Research Centre (PTRC), which brings together governments, industry, and the research community.
- The department considered a number of land policy issues relating to potash units, permits, and leases.
- Potash market development and potash research and development programs were reviewed to ensure the programs continued to meet their intended objectives. The programs focus on expanding markets in southeast Asia, particularly China, and on environmental concerns, such as waste management.
- The department undertook various initiatives to encourage energy resource production through technological innovation:
  - five applications were processed in response to the Saskatchewan Petroleum Research Incentive. This initiative will run for up to another two years and will provide up to $17.5 million of royalty/tax incentives to encourage industry to develop new technology for the oil and gas sector. The application of new technologies in the oil and gas sector will generate significant economic benefits for the province.
  - in co-operation with the North Dakota Geological Survey, the department helped organize the annual Williston Basin Horizontal Well Workshop in Bismarck in May 2000, to promote opportunities for oil field development with horizontal wells. Over 300 oil industry participants attended. The next workshop will be in Regina in May 2001.
- The department participated on an interdepartmental committee to reduce the overlap and duplication between federal and provincial regulation of uranium mines in the province.
- The department analyzed a proposal to conduct a mill-scale trial of processing an uranium by-product at an uranium mill in northern Saskatchewan.
- The department developed a mineral exploration tax credit for mineral exploration funded by flow-through-shares that builds on the federal tax credit announced in October 2000. Following announcement of the provincial tax credit in the budget, the department commenced development of amendments to *The Mineral Resources Act, 1985*.
- Staff represented the government on the Intergovernmental Working Group on the Mineral Industry and the Subcommittee on Aboriginal Participation in Mining.
- The department co-ordinated a process to resolve issues surrounding the drilling of oil and gas wells near potash mines.
- The department participated, through membership in the Northern Mines Monitoring Secretariat, in providing support to the activities of the Environmental Quality Committees in monitoring uranium mine operations in northern Saskatchewan.

- The department continued to work with Saskatchewan Environment and Resource Management on mine reclamation and decommissioning issues.
- Forecasts of production, sales, price, revenue, employment, and investment were prepared for coal, natural gas, potash, uranium, and sodium sulphate. These forecasts assisted the government in budget planning, economic forecasting and planning, and negotiating federal-provincial equalization.
- The department also worked with the federal government on a value-added initiative for minerals.

2. Mineral Royalty and Tax Policy

The industrial and metallic mineral royalty and tax policy program includes the monitoring and managing of royalty and tax systems for uranium, gold and base metals, potash, coal and other industrial minerals. The objective of the royalty and tax systems is to ensure a fair economic return to the province from resource development, while maintaining a healthy investment climate to encourage industry to explore and develop the province's mineral resources.

The mineral royalty and tax systems are reviewed in response to changes in markets, prices, production and capital costs, and regulations and policy in other jurisdictions. Analysis and recommendations on changes to royalty systems, in response to these conditions, are provided to the government for consideration. Consultation with industry is a key consideration in developing changes to royalty and tax systems.

The mandate for the program comes from:

- *The Mineral Taxation Act, 1983* that provides the authority to tax freehold minerals in the province; and
- *The Crown Minerals Act* that provides the authority to collect royalties on Crown minerals in the province.

Major Activities and Results:

- The department developed a capital incentive for the sodium sulphate industry, which will help to make the industry more competitive over the longer term.
- An industry/department working group was established to investigate the impact of provincial taxation on the rate of return for capital investment in the potash industry.
- The department and the Saskatchewan Mining Association co-chair a committee made up of representatives from the mining industry, the Department of Finance, and the Department of Energy and Mines that is examining a broad range of taxation issues that impact the mining industry.
- The department initiated a review of the uranium royalty system involving extensive consultations with the uranium mining industry. The review is examining opportunities to simplify the royalty system significantly while retaining approximately the same level of revenues from the industry.
- Industry proposals under the potash market development and research and development programs were reviewed and approved.
- Numerous issues arising from the administration of the royalty and tax systems were identified, reviewed, and resolved.

3. Oil and Gas Royalty and Tax Policy

The oil and gas fiscal systems program is responsible for reviewing, developing and implementing Crown royalty and freehold production tax structures and incentives applicable to crude oil and natural gas production in Saskatchewan.

The program ensures:

- proper systems are in place in order for the province to receive an appropriate share of crude oil and natural gas revenues from producing companies;
- reasonable levels of exploration and development activity in the province; and
- maximum economic recovery of crude oil and natural gas is from established reservoirs.

The royalty and tax structures and incentives are reviewed from time to time as technology and economic conditions change. Consultation with industry is a key component of all reviews.

The department also evaluates the impact of short and long-term world price movements and quality differential adjustments, provincial royalty and tax situations, federal income tax provisions, and technological changes related to the oil and gas industry in Saskatchewan. The impact is measured by projecting the trends in drilling activity, production, revenue, employment, and investment.

This information is required for internal government economic and budget planning purposes, for analysis of royalty and freehold production tax options, and for response to a number of inquiries from energy boards, municipalities, and oil producing, refining and transporting companies.

The mandate for the program comes from:

- *The Crown Minerals Act* and associated regulations that provide authority to levy a royalty on oil and natural gas from Crown lands; and
- *The Freehold Oil and Gas Production Tax Act* and associated regulations that provide authority to levy a production tax on oil and natural gas determined to be produced from non-Crown lands and on other oil where no determination can be made.

Major Activities and Results:

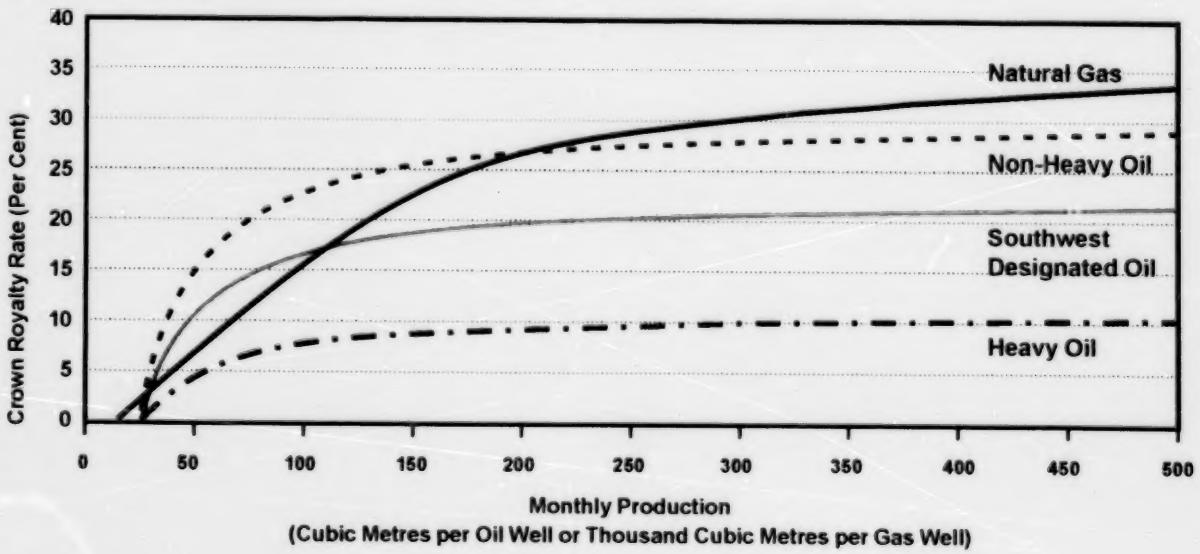
- A proposal to extend the royalty/tax regime approved for the Weyburn Unit CO_2 project to all new CO_2 injection enhanced oil recovery projects in the province was reviewed and approved. The proposal was announced as part of the 2000-01 Budget.

- A review of the regulatory and legislative authority for the assessment of a royalty/tax on crude oil recovered from oilfield facilities such as injection, disposal, cavern and waste processing facilities led to the development of new legislative provisions. Legislation titled *An Act to Amend The Freehold Oil and Gas Production Tax Act* was introduced to provide strong legislative authority for levying a tax on recovered crude oil that was determined to have never been measured as production from an oil well or gas well for purposes of applying a Crown royalty or freehold production tax.
- The impact of natural gas pricing election guidelines and policies on companies that undergo corporate structure changes was reviewed. New policy guidelines that relate to the conditions under which a company can re-elect a different natural gas price reporting option were developed.
- Thirty applications were reviewed and approximately 150 wells were approved under the royalty/tax program for high water-cut oil wells. This program is designed to extend the producing lives and improve the recovery rates of oil wells producing fluid contending more than 95 per cent water.
- One net royalty lease was analyzed for purposes of converting it to a standard Crown lease. An agreement was reached with the company involved and the lease was converted to a standard Crown lease.
- Over 4,100 new oil and gas well licences were reviewed to determine the proper Crown royalty and freehold production tax structure and incentive volume for each well.
- Average oil and gas prices were determined for every month and adjustments were made to the basic Crown royalty and freehold production tax structures for both oil and gas production in accordance to established price sensitive policies.
- Numerous forecasts of production, price, revenue, employment, and investment were prepared that measured the economic and financial impact of the oil industry.

Impacts:

- Continuing strength in crude oil prices and record natural gas price levels contributed to a high level of drilling activity. In 2000, 3,605 oil and gas wells were drilled compared to 2,429 in the previous year. The 2000 gas well drilling total of 1,203 was a new record, surpassing the previous record of 1,038 established in 1999.
- In 2000-01, the average royalty/tax rate was approximately 15 per cent for oil and 17.8 per cent for natural gas resulting in an overall provincial average of approximately 15.6 per cent.
- Figure 5 illustrates the March 2001 Crown royalty curves for newly drilled vertical oil wells (heavy, southwest designated non-heavy and other non-heavy) and gas wells. The curves, which are adjusted every month in accordance with established price sensitive policies, apply on a well basis and after each well has produced its incentive volume.

Figure 5 - Crown Royalty Curve



The following table entitled "New Oil and Gas Wells Drilled in 2000" provides a breakdown of drilling.

New Oil and Gas Wells Drilled in 2000

Well Category	Producing	Abandoned	Service	Total
Oil:				
Conventional:				
Vertical 1,620	200	77	1,897	
Horizontal	443	4	37	484
Total	**2,063**	**204**	**114**	**2,381**
Enhanced Oil Recovery (EOR[1]):				
Vertical	16	0	n/a	16
Horizontal	5	0	n/a	5
Total	**21**	**0**	**n/a**	**21**
Total Oil Wells	**2,084**	**204**	**114**	**2,402**
Gas:				
Total (all vertical)	**1,158**	**45**	**0**	**1,203**
Provincial Total	**3,242**	**249**	**114**	**3,605**

n/a means "not available"

[1]EOR oil means oil recovered from enhanced oil recovery projects. These projects include firefloods, steamfloods, and CO_2 floods but exclude waterfloods.

Resource Policy Resources:

Salaries	$1,014,800
Operating	136,800
Total	**$1,151,600**

16.4 FTEs

Energy Planning and Development

The energy program involves the development of policies and programs to encourage the responsible utilization of energy and the efficient and effective delivery of energy services in Saskatchewan. Policies and programs are developed to promote the efficient use of energy by Saskatchewan consumers, to improve the competitiveness of businesses through improved energy management practices, and to investigate the environmental impact of energy utilization. Policies are also developed to respond to changing circumstances in North America towards a more open and competitive market for the delivery of electricity and natural gas services to customers.

Developments in other jurisdictions that have the potential to affect the production and marketability of our energy resources and the use and delivery of energy and energy services in Saskatchewan are monitored. The department represents the government in a number of intergovernmental initiatives examining issues related to responsible development of our energy resources.

The mandate for this program comes from:

- *The Department of Energy and Mines Act* that describes the Minister's authority and responsibility with respect to energy management and provides authority to enter into agreements with other governments; and
- *The Mineral Resources Act, 1985* that provides authority for conservation of mineral resources.

Major Activities and Results:

- Staff were involved in a number of initiatives related to greenhouse gas emissions and global climate change including:
  - working with the University of Regina to establish the International Test Centre for Carbon Dioxide Capture. The test centre is a partnership of the federal and provincial governments, private companies, utilities, and universities;
  - participating in the National Air Issues Co-ordinating Committee (NAICC) and several of its subcommittees and working groups. The NAICC is responsible for implementing Canada's National Action Plan on Climate Change and for developing a Canadian response to the Kyoto Protocol;
  - participating in the International Energy Agency's greenhouse gas research and development program;
  - representing Saskatchewan in the role of Pilot Manager for the Greenhouse Gas Emissions Reduction Trading (GERT) pilot project. The pilot encourages voluntary investment in emission reduction projects and the trading of emissions reductions to lay the groundwork for a possible future emissions reduction trading system;
  - developing and promoting the Weyburn Monitoring Project to evaluate geologic sequestration of carbon dioxide;
  - maintaining a toll-free energy conservation telephone line to provide energy conservation information to Saskatchewan consumers. Some 381 information requests were handled; and
  - updating provincial activities in support of the development of Canada's first National Business Plan in response to climate change.
- In co-operation with Natural Resources Canada, the following activities were supported:
  - the EnerGuide for Houses Program in Saskatchewan in co-operation with Sun Ridge Group;
  - the R2000 Home Certification Program in Saskatchewan, in co-operation with the Saskatchewan Home Builders Association;
  - the Canadian Agricultural Energy End Use Data and Analysis Centre at the University of Saskatchewan;
  - development of the Prairie Adaptation Research Collaborative (PARC); and
  - sharing of information on energy efficiency and conservation.
- The department represented Saskatchewan's interests in energy sector discussions in the negotiations between Canada and the provinces for an agreement to reduce internal trade barriers within Canada.
- The department assisted the Internal Trade Secretariat in the Saskatoon regional public consultations on the Agreement on Internal Trade held in October 2000.
- The department represented Saskatchewan's interests in the federal-provincial working group on electricity reliability and in several industry conferences on electricity reliability issues.
- Staff continued to monitor and provide policy advice on the changing circumstances in the North American electricity industry with respect to more open and competitive markets.
- The department represented Saskatchewan on a federal task force examining the opportunities for harmonizing the regulation of oil and natural gas pipelines in Canada.

Energy Planning and Development Resources:

Salaries	$714,100
Operating	760,000
Total	**$1,474,100**

12.3 FTEs

Resource Revenue Collection

The department has a rigorous financial system in place to record production and disposition information, calculate royalties and taxes owing, and issue billings. An appropriate tax audit presence ensures a high degree of compliance by resource companies and additional royalties and taxes for the province.

The revenue collection activity ensures that revenues owed to the province are collected and includes the following specific activities:

- collecting data on the production and disposition of oil, gas, water and associated products from all producing wells in the province;
- calculating oil and gas royalties and taxes owed by more than 2,300 operators and working interest owners and issuing monthly invoices for any discrepancies in the amounts owed;
- auditing royalty returns to ensure that all revenues owed are received;
- maintaining major computer systems to store and analyze oil and gas production and disposition data, calculate royalties and taxes owing, and issue billings to operators and working interest owners;
- calculating and making compensation payments to former mineral rights owners; and
- administering the sale or transfer of Crown mineral rights to the federal government on behalf of Saskatchewan Indian bands under Treaty Land Entitlement and specific claims.

1. Revenue Collection Program

The revenue collection program ensures that non-renewable resource revenues, mineral rights taxes and other fees owing to the province are collected. The revenue collection program also administers mineral land ownership records, and ensures that mineral compensation and trust expenditures are made appropriately.

The mandate for this program comes from:

- *The Crown Minerals Act* and associated regulations that prescribe royalties, rentals, and fees payable by persons engaged in exploring, developing, and producing minerals that are owned by the Crown and prescribes penalties to be applied to late payments;
- *The Freehold Oil and Gas Production Tax Act* and associated regulations that prescribe amounts payable by producers of oil and gas from wells drilled on freehold lands; and
- *The Mineral Taxation Act, 1983* that prescribes base and profit-related payments due from potash producers, production taxes payable on freehold coal, and mineral rights tax payable by taxable mineral owners.

Major Activities and Results:

- All cash was received, recorded, and deposited on a daily basis. A record level of revenue totalling $1,301.0 million was received. In addition, year-end accruals were calculated and applied to various revenue accounts in accordance with government accounting practices.
- A total of 56 audits of resource companies were completed during the year resulting in additional Crown revenues of $19.9 million.
- Collection activity on delinquent accounts continued throughout the year. Uncollectible accounts totalling $175,000 were written off after all collection action had been exhausted.
- Surrenders, assignments, and transfer documents pertaining to mineral rights were processed throughout the year to ensure the integrity of the Crown and the freehold mineral ownership records and the mineral rights tax database.
- The department held numerous meetings with royalty/tax payers to convey information, answer questions, explain regulatory or policy changes, and seek input on royalty/tax related matters.
- Compensation payments to former mineral owners totalled $1,534,958, which includes the present value of non-cash, alternative compensation arrangements that replaced annual cash payments to two companies.

2. Information Technology Services

Information Technology (IT) Services involves developing and maintaining systems, acquiring and maintaining computer hardware and software, contracting for consulting and mainframe services, administering the department's computer network, providing system security, operating a helpdesk, and providing data-entry services.

The department operates a number of major systems on a regular production basis, running on variety of platforms. Changes are made to existing systems or new systems are developed to support legislative changes or to improve operational efficiency. System analysis, development, and maintenance functions are performed by department staff.

The client/server environment and network services are also supported by department staff. Mainframe services are contracted to ISM Canada.

Major Activities and Results:

Work began on an IT Security Policy to ensure that the department's information technology assets are properly protected.

- Completed analysis and design of a Mineral Ownership Information System. This system will maintain all mineral ownership information, replacing a system that maintained only the freehold mineral ownership information.
- Designed a new architecture to be used in the development of new systems in the client/server environment.
- Updated the department website to conform to the government standard.
- Continued to upgrade desktop hardware.

Plans for Next Year:

- Complete and implement the IT Security Policy.
- Develop systems to support the Orphan Well Program.
- Pilot an imaging system with some of the department's paper files. This may lead to more extensive imaging projects.
- To facilitate services to clients, the department will provide database searches and on-line forms.
- Complete development of the Mineral Ownership Information System.

3. Indian Land Claims

The objective of the program is to facilitate the transfer of lands to Indian reserves in Saskatchewan through the implementation of the mineral provisions of Indian land claim settlement agreements. Two types of land claims are:

Treaty land entitlement (TLE) claims arising from the implementation of Treaty Land Entitlement Agreements between the province, the federal government and various Indian Bands; and

Specific land claims arising from the implementation of Specific Claim Settlement Agreements between the federal government and Saskatchewan Indian Bands.

The mandate for this program comes from:

- *The Saskatchewan Natural Resources Transfer Agreement (Treaty Land Entitlement) Act;*
- *The Treaty Land Entitlement Implementation Act,* and subsequent settlement agreements with individual Bands; and
- *The Crown Minerals Act.*

Major Activities and Results:

- The department is currently engaged in the transfer and sale of Crown mineral rights to the federal government on behalf of Indian Bands in Saskatchewan. This includes:
  - reviewing and approving all Crown mineral selections;
  - determining the level of compensation that may be required by the province for purposes of transferring Crown mineral rights to the federal government; and
  - preparing Orders in Council approving the transfer of the mineral rights to the federal Crown.
- Other activities include information workshops with the Indian bands and the energy and mineral resource industries, interdepartmental meetings to resolve process and policy issues, and monitoring the status of Crown mineral rights subject to Indian land claims.
- In 2000-01, the department reviewed 207,477 hectares of mineral rights requested by Entitlement Bands. Since inception of TLE agreements in 1992, the department has reviewed a total of 1.6 million hectares of mineral land selections.
- A total of 20,444 hectares of provincial Crown mineral rights were approved by Cabinet for transfer to the federal government during the 2000-01 fiscal year to become new reserve lands. The total number of hectares of Crown minerals transferred under these agreements as of March 31, 2001 was 159,376.

4. Oil and Gas Production and Disposition Data

The oil and gas data program collects data related to the production and disposition of crude oil, natural gas, water, and associated products from all producing wells in the province.

The database is used in the collection of royalties and taxes, forecasting, monitoring, and the evaluation of Crown lands under disposition. It is also used to analyze and develop resource management policy and fiscal regimes and to establish, monitor, and enforce oil and gas conservation, and environmental and safety standards.

As well, the oil and gas industry relies extensively on the database for production information to facilitate its exploration and development activities in the province. Data is also used by consulting firms, federal and provincial government agencies, universities, and the general public.

The mandate for this program comes from:

- *The Oil and Gas Conservation Act* and regulations that require companies to submit monthly statistical data and any other information to the department.

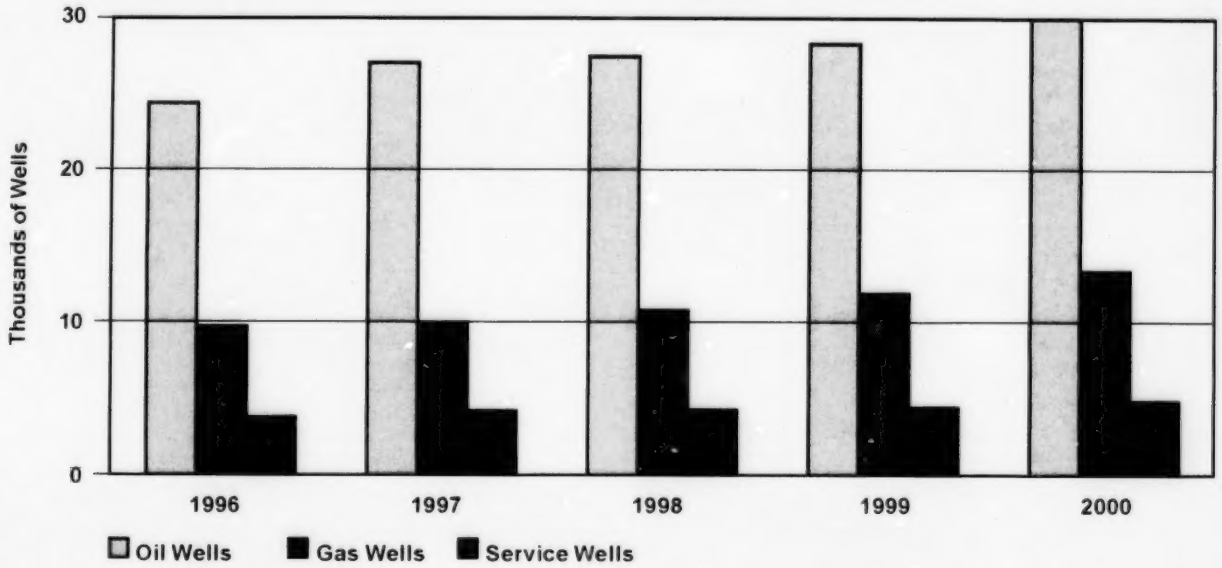
Major Activities and Results:

- In excess of 55,000 statistical reports on the production and disposition of crude oil, natural gas, water, and associated products from all producing wells in the province were processed and verified each month. The number of wells capable of production rose by 3,395 wells to 48,136. The number of wells capable of production by well type for the past five years is shown in Figure 6.

A total of 3,882 status updates on new and existing wells and units were made due to changes related to the date of first production, recompletion, reclassification, and royalty and tax eligibility.

Some 1,531 requests from industry for suspension of an active well or for production resumption of an inactive well were handled to facilitate reporting and royalty and tax collection.

Figure 6 - Wells Capable of Production/Injection



Staff worked on a new computer system for the Data Submission Compliance Enforcement Program. The new system is targeted for completion and implementation in the fall of 2001. Staff also provided user support and performed testing of various Production and Disposition System functions and programs to increase system efficiency, enhance program functionality, and reduce operating costs.

Consultation was carried out with representatives of Saskatchewan producers, industry associations and vendor companies to address and develop appropriate solutions to issues and concerns regarding the policies and administrative procedures of the compliance enforcement program. As a result, the transition from "shadow" to "live" penalties under the program was successfully implemented January 1, 2001. By the end of the fiscal year, the compliance enforcement initiative has proven successful in bringing industry attention to the importance of timely data submission. The proportion of late and delinquent reports was reduced from more than 20 per cent prior to the compliance program to about two per cent.

A total of 5,080 applications related to facility codes and change of operatorship were reviewed and processed to ensure proper reporting and maintain the integrity of the database.

The terms and conditions of all gas contracts, invoices, transportation agreements, and heating value information were analyzed and entered into system files, in order to facilitate various price monitoring functions required for the verification of reported sales data. The accuracy of the sales information directly affects royalty/tax revenues.

Some 2,035 requests for statistical information from industry clients, federal and provincial government agencies, consulting firms, universities, and the general public were handled on the basis of a one-day turnaround.

Resource Revenue Collection Resources:

Salaries	$2,704,500
Operating	2,139,900
Total	**$4,844,400**

56.6 FTEs

Resource Regulatory Programs

The resource regulation program is responsible for the licensing, inspection, and setting of guidelines for the safe and environmentally responsible exploration, drilling, and operation of oil and gas wells, battery sites, resolving disputes between operators and landowners, and the disposition and administration of oil, gas and mineral rights.

The resource regulatory activity includes the following specific items:

- review all applications and issue licences to explore, drill, operate and produce oil, gas and related service wells. This ensures that Crown oil and gas rights have been properly acquired, wells are properly located, and drilling and casing requirements are met according to provincial regulations;
- establish guidelines for, and monitor the drilling, production and well abandonment activities of the oil and gas industry;
- monitor and inspect well sites and help resolve disputes between operators and landowners;
- establish pool boundaries, specify spacing between wells, set allowable limits for new wells, and monitor production;
- review geophysical licences and seismic plans;
- issue rights to mine minerals, monitor leases and production activity from approved mine sites, issue claims for mineral exploration, and review requirements to ensure that claims are still in good standing;
- review mine excavation plans, collect and publish mine production data; and
- disposition and administration of Crown oil, gas and mineral rights.

1. Oil and Gas Environmental and Safety Standards

The environmental and safety standards program establishes guidelines for, and monitors the drilling, production, operation, and well abandonment, decommissioning and reclamation activities of the oil and gas industry. Standards and procedures are established for casing wells, waste management, reporting and cleaning up spills, storage of products, safe distances for wells and equipment, injection well design, and well abandonment. Ongoing monitoring of oil and gas industry activity ensures operations are being conducted in accordance with established guidelines, standards and policies, and ensure that overall impact to the environment is minimized.

Field offices are located in Lloydminster, Kindersley, Swift Current, and Estevan.

The mandate for this program comes from:

- *The Mineral Resources Act, 1985* and *The Seismic Exploration Regulations, 1999* that establish operating procedures for seismic activities; and
- *The Oil and Gas Conservation Act* and associated regulations that govern industry activity as it pertains to drilling, production, well and facility abandonment, site restoration, reclamation, and remediation.

Major Activities and Results:

- Department staff continued to chair a joint industry-government committee that was formed to review and recommend changes to the existing program for addressing abandonment and reclamation liabilities. The committee produced a report that recommends expanded legislative and regulatory provisions to address the potential problems associated with inactive and orphan wells and facilities. After extensive consultation, department staff prepared Bill No. 10 of 2001, an Act to amend *The Oil and Gas Conservation Act.* It is anticipated the amendments will be passed early in 2001 with accompanying changes to *The Oil and Gas Conservation Regulations, 1985* completed prior to the end of the 2001-02 fiscal year.
- *The Saskatchewan Drilling Waste Management Guidelines* was revised and made available to industry on Saskatchewan Energy and Mines' website.
- To ensure the highest environmental protection standards are achieved on a consistent basis, the department continues to provide a computer software program to assist operators in calculating the appropriate loading rates for disposing of drilling fluids on cultivated lands.
- Extensive consultations were held with industry, government regulators, and the general public, in developing comprehensive storage standards for the upstream petroleum industry.
- A number of new environmental guidelines were completed in 2000-01 and distributed to industry, government agencies and stakeholders.

These guidelines include:

- *Policy for Discharge of Fresh Surface Water from Upstream Oil and Gas Facilities.*
- *Guidelines on Land Farming Oily Byproducts with High Clay Content.*
- *Saskatchewan Hydraulic Fracturing Fluids and Propping Agents Containment and Disposal Guidelines.*
- *Saskatchewan Interim Industrial Landfill Waste Acceptance Criteria for Upstream Petroleum Industry.*

The following draft guidelines were distributed to industry and government regulators for comment during 2000-01:

- *Drilling and Service Rig Flare Tank Designs and Specifications.*
- *Comprehensive Guidelines on Upstream Storage, Containment and Pollution Prevention.*
- *Natural Occurring Radioactive Material Classification, Handling, and Management Procedures.*
- *Application to Construct an Oil and Gas Facility.*

Since the introduction of *Saskatchewan Petroleum Industry/Government Environmental Committee Guidelines*, field staff have been actively enforcing the requirements of the guidelines, as well as, providing upon demand technical assistance and expertise to industry and the general public.

Staff actively participated with other regulatory agencies in the development of comprehensive land use strategies for the Whitehood, Dory/Smoothstone, Mistatim Marsh, Bjorkdale West Forest, and Stove Creek areas.

Staff continued to provide rural municipalities with technical and consultative guidance pertaining to the sustainable and balanced development of the upstream petroleum industry within their municipal boundaries. Work continues to progress on a development plan for the Rural Municipality of Maple Creek No. 111.

The department continued to provide assistance to Saskatchewan Agriculture and Food and Saskatchewan Environment and Resource Management in their efforts to harmonize approaches with respect to the leasing of Crown land for the purpose of oil and gas development.

Staff are active members of environmental and safety committees including the Saskatchewan Petroleum Industry/ Government Environmental Committee, the Canadian Petroleum Safety Council, and industry's Drilling and Completion Committee.

Field staff conducted 26,959 well, battery, and rig site inspections, monitored the clean-up of 1,415 oil and salt water spills, and assisted in resolving 48 landowner complaints.

During the 2000 calendar year field staff inspected drilling rigs on the 3,605 new oil and gas wells that were drilled in the province. Workover programs were also approved, monitored, and reported.

Field staff conducted 1,958 inspections of water injection and disposal facilities to ensure proper water handling and injection well bore integrity.

Two new upstream waste processing facilities were approved this fiscal year. These new facilities, in conjunction with the existing facilities, provide state of the art recovery, recycling, containment, treatment, and disposal technologies for byproducts and wastes generated by the upstream petroleum industry throughout the province.

Impacts:

- Staff continues to work with Saskatchewan Agriculture and Food and Saskatchewan Environment and Resource Management in developing and implementing comprehensive land-use strategies for Crown lands administered by these departments with regards to solving both real and perceived problems which arise from time to time in the process of developing petroleum and natural gas resources.
- Inspections conducted by field staff ensured that industry complied with regulations governing their operations, thereby minimizing environmental impact.
- Saskatchewan Energy and Mines' environmental guidelines are generally acknowledged as being practical and effective.

2. Oil and Gas Conservation

The oil and gas conservation program establishes, monitors, and enforces sound oil and gas conservation standards to ensure responsible development of the province's oil and gas reserves.

The program ensures pool boundaries and well spacing orders are current and establishes and monitors production limitations to ensure that they are not exceeded.

The mandate for this program comes from:

- *The Oil and Gas Conservation Act;*
- *The Crown Minerals Act;* and
- *The Pipelines Act, 1998*, and their associated regulations that provides the rules under which the oil and gas industry must operate.

Major Activities and Results:

- The ongoing activities of establishing pool boundaries and well spacing orders were carried out with 166 orders issued in 2000. The well spacing orders are in response to industry applications to optimize oil and gas recovery.
- Production allowable limits were issued for all new oil and gas wells unless good production practices were granted.
- Oil and gas production was monitored to determine if well production exceeded that allowed. Notification and warnings were sent to all companies that exceeded their allowables.

3. Seismic and Well Licences

Under the seismic and well licensing program, the department reviews applications and issues licences to explore, drill, operate, and produce oil, gas, and related service wells. Seismic contractors and blasters are licensed to ensure certain operating standards are met, and to maintain a current record of companies conducting seismic work in the province. By licensing the drilling and operation of oil, gas, and service wells, the department ensures Crown mineral rights have been properly acquired, wells are properly located, and drilling and casing requirements are met according to regulations.

The number of well licence applications issued during the 2000-01 fiscal year averaged 329 per month. The increase in the number of licence applications received was directly related to the increase in the price for oil and gas. Well licence applications received with proper documentation continue to be processed within three working days.

The mandate for this program comes from:

- *The Mineral Resources Act, 1985* and *The Seismic Exploration Regulations, 1999* that provide the authority for seismic licences; and
- *The Oil and Gas Conservation Act* and associated regulations, that govern the licensing of oil, gas, and service wells.

Major Activities and Results:

- During the fiscal year, 3,956 well licences, 70 seismic licences, and 476 blaster permits were issued.
- A total of 6,519 well transfers and 5,719 well name changes were registered. There were also 55 name changes registered as a result of corporate name changes and amalgamations.

4. Mine Data and Mineral Statistics

Under the mine data and mineral statistics program, the department monitors mining developments, collects, processes, and analyses production and sales data, reports exploration expenditures, prepares metallic mineral (except uranium) royalty forecasts, issues mineral test hole permits, authorizes potash well abandonments, processes revisions in potash lease or unitized areas, and maintains historical records, including mine plans. It also co-ordinates the review of all environmental project submissions referred to the department and provides input into the Environmental Assessment Technical Review Panel for mining development projects and into the Federal-Provincial Committee on Mineral Statistics.

Major Activities and Results:

- Twenty-eight mining operations including potash, uranium, coal, gold, base metals, salt, clay (including bentonite), calcium chloride, and sodium sulphate were in active production in 2000-01.
- Ten potash mines produced approximately 8.7 million tonnes of K_2O.
- Commercial production began at McClean Lake and McArthur River uranium mines on Feb. 1, 2000 and Nov. 1, 2000 respectively. At McClean Lake, stockpiled ore from the JEB pit and Sue C1 ore was milled until November 2000 when the mine met its licensed production capacity of six million lbs. U_3O_8. The operators have applied to federal and provincial regulators for increased annual milling capacity of eight million lbs. U_3O_8. At Cluff Lake, mining and milling operations that were initially scheduled to cease in 2000 continued into 2001 due, in part, to higher ore grades and the consequent lower volume of tailings. The shutdown of mining operations, that originated in 1999, at the Eagle Point Mine, Rabbit Lake, has been extended until the first quarter of 2002. This was accompanied in August 2000 by a shutdown of the Rabbit Lake mill until mining operations resume.
- The Seabee Mine remained the only primary gold mine in the province in 2000-01 with secondary production from the base metal mines near Flin Flon.
- Base metal (copper and zinc) production at the Saskatchewan side of the Callinan Mine and the Konuto Mine continued in 2000-01.
- Advanced exploration programs for base metals and a test mine project for silica sand were carried out at McIlvenna Bay, 100 km west of Flin Flon.
- Sodium sulphate operations at Ingebright were temporarily suspended as of February 2001.
- Expenditures by industry on mineral exploration for calendar 1999 and 2000, excluding those on the test mines, are shown below:

Mineral	1999 Programs	1999 Expenditure ($ millions)	2000 Programs	2000 Expenditure ($ millions)
Uranium	8	$14.0	11	$15.6
Gold	7	1.1	8	1.6
Base metals	10	6.4	18	9.6
Diamonds	5	1.4	8	2.6
Other	3	0.2	3	0.7
Total	**33**	**$23.1**	**37**	**$30.1**

During the fiscal year, 470 statistical reports from various sources were analyzed and processed. Numerous requests for statistical information were also handled.

The department authorized the plugging and abandonment of six potash production wells at the Belle Plain mine and processed three potash lease areas.

Staff reviewed 17 excavation plans submitted by mining companies.

The department issued permits for drilling of 27 mineral test holes for diamonds and 57 test holes for coal at the Poplar River mine.

Discussions on developing a co-operative and efficient arrangement for collecting and sharing mineral statistics with federal agencies continued.

Staff conducted nine reviews of Environmental Impact/Assessment project submissions.

The Mineral Statistics Yearbook for 1999 was released.

5. Crown Mineral Rights

The department is responsible for the disposition, development, and conservation of all Crown minerals and for auditing the work and financial credits claimed in submissions required in order to keep mineral rights in good standing.

The mandate for this program comes from:

- *The Mineral Disposition Regulations, 1986* for uranium, base and precious metals, and other minerals;
- *The Quarrying Regulations, 1957* for clay, bentonite, silica sand, and other quarriable substances;
- *The Alkali Mining Regulations* for sodium, potassium, and ammonia sulphate;
- *The Coal Disposition Regulations, 1988* for coal; and
- *The Subsurface Mineral Regulations, 1960* for potash and salt.

Major Activities and Results:

- Under *The Mineral Disposition Regulations, 1986*, a total of 695 claims were staked in 2000-01 covering 608,613 hectares. This represents an increase in the number of claims staked, and an increase of 42 per cent in the area staked compared to the previous year. Most of the staking activity was related to uranium, diamond, and platinum group metal exploration. The total number of claims in good standing on March 31, 2001 was 2,945 covering a total of 2.3 million hectares.
- Staff reviewed 1,039 submissions of mineral assessment work that represented $38.6 million of exploration work.
- Staff partly completed the conversion of industrial mineral disposition maps and files into digital GIS compatible format.
- The department established 18 Crown Reserves that exclude lands in these sites from further exploration and development.
- Staff prepared revisions to *The Mineral Disposition Regulations, 1986* that will likely be implemented in 2001-02.
- The following permits and leases were issued during the year.

	Permits Issued in 2000-01		Total Permits in Good Standing March 31, 2001	
	No.	**Hectares**	**No.**	**Hectares**
Mineral	2	87,013	3	97,013
Quarrying	0	0	1*	21,460
Alkali	0	n/a	13	Little Manitou
Coal	0	0	0	0
Subsurface	0	0	1	5,215
Total	**2**	**87,013**	**18**	**123,688**

*Includes a special agreement for silica sand exploration

	Leases Issued in 2000-01		Total Leases in Good Standing March 31, 2001	
	No.	**Hectares**	**No.**	**Hectares**
Mineral	1	308	119	38,495
Quarrying	3	16	96	4,077
Alkali	8	2,104	39	32,821
Coal	3	70	709	104,335
Subsurface	0	0	12	217,164
Total	**15**	**2,498**	**975**	**396,892**

6. Administration of Crown Oil and Gas Rights

The department administers and reviews all dispositions of Crown oil and gas rights to ensure that regulatory requirements are met. This process is expanded with the incorporation of the reversion of deeper rights. A registry of conveyance agreements, encumbrances, and securities related to Crown dispositions is maintained to monitor business activity and regulated operations.

A database is used to invoice lease rentals and to monitor offset commitments and compensatory royalties. The registry system and search service is used by the oil and gas industry, lawyers, financial institutions, and many others.

The mandate for this program comes from:

- *The Crown Minerals Act*; and
- *The Petroleum and Natural Gas Regulations, 1969.*

Major Activities and Results:

- All expiring and non-producing petroleum and natural gas dispositions were reviewed to determine whether the dispositions should be continued. A total of 10,351 dispositions were reviewed.
- A total of 4,449 disposition transactions and 4,444 searches were performed.
- Work requirements of permits and drilling reservations were monitored and offset commitments were reviewed and enforced.
- As shown in the following table, 5.45 million hectares of Crown oil and natural gas rights were under disposition as at March 31, 2001.

Crown Oil and Natural Gas Dispositions

Category	March 31, 2000 No.	March 31, 2000 Hectares	March 31, 2001 No.	March 31, 2001 Hectares
Leases	21,368	5,059,956	20,910	4,844,987
Permits	63	468,578	17	148,496
Exploration Licences	116	292,479	70	161,465
Special Exploratory Permits	21	1,215,902	4	273,605
Special Agreements	5	45,066	0	0
Lease of Space Agreements	11	25,786	15	26,061
Total	**21,584**	**7,107,767**	**21,016**	**5,454,614**

- Twelve helium leases were under disposition with an area of 22,803 hectares and 13 helium permits were under disposition with an area of 185,913 hectares.
- Three oil shale leases were under disposition with an area of 1,327 hectares and five oil shale permits were under disposition with an area of 191,698 hectares.

Resource Regulatory Programs Resources:

Salaries	$2,194,600
Operating	1,011,000
Total	**$3,205,600**

45.9 FTEs

Administration

The department's administration function includes providing strategic leadership and organizational direction to the department as well as financial, human resources, communications, accommodation, and co-ordination services for the department's core business activities.

The administration activity ensures that the other program areas have the requisite level of human resources, facilities, equipment, and supplies to carry out their various functions. It also ensures that the department manages within its budget allocation, has adequate internal controls and safeguards government assets, that Financial Administration Guidelines are followed, and that the provisions of *The Public Service Act* and the PS/GE Collective Bargaining Agreement provisions are upheld.

1. Human Resources

The department manages a strategic recruitment and selection process, provides responsive and effective classification services and advice to staff, and practices an open communication approach to human resources to foster a healthy labour relations climate.

Major Activities and Results:

- The department completed 28 permanent staff competitions and 47 non-permanent hires during the fiscal year, using competency-based standards. Recruitment efforts for out-of-scope, permanent part-time and term positions are conducted internally.
- Work continued on assisting staff affected by the implementation of the new in-scope classification plan and outstanding appeals.
- A series of seven workshops, promoting health and well-being, were offered to department staff. The workshops presented information on issues such as first aid, nutrition and sleep disorders. As part of the dpartment's commitment to providing a safe and secure workplace, staff identified as at risk to violence attended a "Diffusing Hostility" course facilitated by the Regina City Police. In addition, staff attended another 140 outside learning opportunities.
- The department offered opportunities to 18 summer students to assist in activities such as geological mapping in northern Saskatchewan and oil and gas field activities.

2. Administration and Financial Services

The department provides administrative and financial services including: financial management, budget preparation, expenditure accounting and reporting, procurement of goods, mail services, and vehicle co-ordination.

Major Activities and Results:

- The department processed 98 per cent of supplier payments on time, once again exceeding the government's goal of having its suppliers paid on time in 90 per cent of the cases. Post-audit results for the fiscal year 1999-2000 indicate that the department had no instances of noncompliance in the payment of invoices.
- The department's budget for 2000-01 was $17,024,000 and it incurred actual expenditures of $18,880,000. The additional expenses were due largely to one-time settlements for mineral leases.

3. Communications

Communications services include: responding to media inquiries; preparation of communications strategies; department printing requirements; advertising; display production; sales and distribution of technical and promotional publications; maintenance of the department reference library; and management of the department Internet web site and the public inquiry line.

Communications activities were focused on:

- increasing investment in Saskatchewan's mining, oil and gas sectors; and
- raising public awareness of the benefits of the resource sectors in Saskatchewan.

Major Activities and Results:

- The department was an exhibitor at the Prospectors and Developers Association trade show in Toronto, the World Petroleum Congress in Calgary, and the Prospect Exchange in Calgary.
- Work continued on expanding the department's website as an important source of information about Saskatchewan's energy and mineral resources.
- The staff responded to 7,408 inquiry calls and e-mails, up 26 per cent from the previous year.
- Sold publications, maps, and electronic data totalling $139,896.
- The department promoted the Geological Open House and the Williston Basin Horizontal Well workshop. Both events are aimed at a technical audience and are intended to attract activity and investment in Saskatchewan resources.
- Staff provided a daily media monitoring service to executive management and the Minister's office.

4. Accommodation

Payments are made to the Saskatchewan Property Management Corporation for office, storage and lab accommodations, mail services, records management, and minor capital renovations.

The department's head office is located in Regina and it maintains field offices in Swift Current, Lloydminster, Kindersley, Estevan, La Ronge, and Creighton. All occupied space is leased from the Saskatchewan Property Management Corporation (SPMC).

Administration Resources:

Salaries	$972,900
Operating	2,406,000
Total	**$3,378.900**

20.5 FTEs

Budget and Actual Expenditures

Sub-vote	2000-01 Budget ($ 000s)	2000-01 Actual ($ 000s)	Variances ($ 000s)	Notes
Administration	$1,397	$1,418	$21	1
Accommodation and Central Services	$2,000	$1,960	$(40)	2
Petroleum and Natural Gas	$4,505	$4,946	$441	3
Exploration and Geological Services	$3,495	$3,492	$(3)	
Mineral Revenues				
Mineral Revenue Collection	$3,358	$3,332	$(26)	4
Mineral Compensation	171	1,535	1,364	5
Sub-total	**$3,529**	**$4,867**	**$1,338**	
Resource Policy and Economics				
Resource Development and Taxation	$1,581	$1,501	$(80)	6
Energy Sector Initiatives	517	696	179	7
Sub-total	**$2,098**	**$2,197**	**$99**	
Total Expenses	**$17,024**	**$18,880**	**$1,856**	
FTE Staff Complement	**252.4**	**230.4**		

Notes:

1) *Increased salary expenses.*
2) *Savings in minor capital and postage expenses.*
3) *Additional expenses due largely to one-time settlement for Crown oil and gas leases.*
4) *Savings due to vacancies were offset in part by an increase in valuation allowance for potential write-off of accounts receivable.*
5) *One-time alternate compensation arrangement to former owners of mineral rights.*
6) *Savings due to vacancies.*
7) *Additional support for energy research projects and the Petroleum Technology Research Centre.*

Activity	2000-01 Budget ($ 000s)	2000-01 Actual ($ 000s)	Variances ($ 000s)	Notes
Resource Development	$4,976	$4,826	$(150)	1
Resource Policy	1,220	1,152	(68)	1
Energy Planning and Development	1,338	1,474	136	2
Resource Revenue Collection	3,514	4,844	1,330	3
Resource Regulation	2,579	3,206	627	4
Administration	3,397	3,378	(19)	5
Total Expenses	**$17,024**	**$18,880**	**$1,856**	

Notes:

1) *Savings due to staff vacancies.*
2) *Increase due to additional support for Petroleum Technology Research Centre and energy research projects.*
3) *One-time alternate compensation arrangement to former owners of mineral rights.*
4) *Additional field office travel expenses and one-time settlement for Crown oil and gas leases.*
5) *Savings in minor capital expenses.*

(Totals may not add due to rounding)

Budget and Actual Revenues

	2000-01 Budget ($ millions)	2000-01 Actual ($ millions)	Variance ($ millions)	Notes
Non-renewable Resource Revenue				
Oil	$447.4	$799.0	$351.6	1
Natural Gas	66.5	239.3	172.8	2
Potash	195.2	199.3	4.1	
Other Mineral	41.5	55.1	13.6	3
Total Non-renewable	**$750.6**	**$1,292.7**	**$542.1**	
Other Revenues				
Mineral Rights Tax	$8.0	$8.0	$ -	
Other Misc. Revenue	0.6	0.3	(0.3)	
Total Other	**$8.6**	**$8.3**	**($0.3)**	
Total Revenues	**$759.2**	**$1,301.0**	**$541.8**	

Major Variance Analysis

1. *The increase in oil revenues of $351.6 million is due largely to much higher than anticipated oil prices that averaged $30.20 per barrel in U.S. dollars compared to the budget estimate of $20 per barrel. The higher prices also led to increased drilling and production of oil. The lower Canada-U.S. exchange rate also increased provincial revenues from oil production.*
2. *The increase of $172.8 million in natural gas royalties and taxes is the result of substantially higher than anticipated prices and increased production levels in response to higher natural gas prices. Natural gas prices averaged $6.18 per mcf compared to the budget estimate of $2.49 per mcf.*
3. *This increase is due largely to additional revenues from audits.*

(Totals may not add up due to rounding)

Major Saskatchewan Resource Industries Statistical Summary

CRUDE OIL	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Production (million cubic metres)	12.42	13.37	14.97	17.19	18.75	20.94	23.45	23.15	21.71	24.23
Value of Production ($ millions)	$1,185	$1,407	$1,472	$1,878	$2,293	$3,105	$2,869	$1,933	$3,055	$5,036
Direct Employment	4,330	4,630	5,410	5,730	6,070	6,840	7,860	5,640	5,980	7,460
Capital Spending ($ millions)	$324	$260	$558	$985	$1,045	$1,436	$2,545	$1,141	$920	$1,530
Wells Drilled	672	632	1,315	1,421	1,881	2,539	3,608	1,064	1,391	2,402
Revenues to Province ($ millions*) Net Royalty/Tax	$168.1	$227.8	$198.5	$306.4	$346.9	$525.1	$354.4	$233.6	$565.6	$712.7
Oil and Gas Land Bonus Bids**	$12.0	$17.1	$84.0	$202.0	$67.6	$140.8	$109.2	$48.7	$48.1	$55.7
Other Revenue***	$18.1	$17.3	$17.9	$20.2	$32.8	$24.8	$25.1	$22.2	$26.4	$30.6
Total Revenues	**$198.2**	**$262.2**	**$300.4**	**$528.6**	**$447.3**	**$690.7**	**$488.7**	**$304.5**	**$640.1**	**$799.0**

NATURAL GAS	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Production (million cubic metres)	7,320	7,474	7,667	8,519	8,715	8,066	7,818	7,694	7,907	8,148
Sales ($ millions)	$357	$323	$358	$490	$347	$343	$395	$423	$611	$1,094
Net Royalty/Tax ($ millions)*	$42.8	$34.0	$50.3	$61.4	$41.3	$53.0	$44.1	$65.9	$91.8	$239.3
Direct Employment	385	305	625	670	395	440	425	580	779	891
Capital Spending ($ millions)	$78	$37	$170	$169	$42	$64	$55	$73	$131	$158
Wells Drilled	461	211	969	1,000	268	369	327	634	1,038	1,203

POTASH	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Production (thousand K_2O tonnes)	6,299	6,179	5,824	7,148	7,925	6,969	8,297	8,646	7,909	8,721
Sales ($ millions)	$769	$814	$800	$1,107	$1,219	$1,116	$1,505	$1,625	$1,633	$1,697
Net Royalty/Tax ($ millions)*	$50.8	$57.1	$51.3	$89.0	$122.3	$87.6	$189.5	$202.5	$169.5	$199.3
Direct Employment	3,160	3,030	2,885	2,879	2,958	2,97	3,012	3,143	3,081	3,033
Capital Spending ($ millions)	$46	$43	$38	$53	$70	$108	$129	$161	$101	$107

* *All revenue figures, including royalties/taxes, are for the fiscal year beginning in the year shown.*

** *Land bonus bids are less the Sand Hill credits.*

*** *Other revenues include lease rentals, interest, and net royalty payments, for the fiscal year beginning in the year shown.*

Major Saskatchewan Resource Industries Statistical Summary

URANIUM	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Production (million kg)	8.1	9,8	10.0	10.6	11.6	13.3	14.2	N/A	N/A	12.3
Sales ($ millions)	$304	$381	$375	$408	$432	$651	$557	N/A	N/A	$419
Royalty/Tax ($ millions)*	$14.5	$26.4	$31.7	$20.2	$44.7	$57.9	$38.5	N/A	N/A	$38.7
Direct Employment (mine site)	1,053	1,052	1,198	1,204	1,458	1,749	1,918	N/A	N/A	1,555
Capital Spending ($ millions)	$52	$9	$54	$37	$126	$245	$277	N/A	N/A	$48

COAL	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Production (million tonnes)	9.0	10.1	10.0	10.7	10.7	10.8	11.6	N/A	N/A	N/A
Sales ($ millions)	$94	$100	$94	$104	$116	$116	$122	N/A	N/A	N/A
Royalty/Tax ($ millions)*	$15.8	$13.3	$15.3	$15.6	$15.2	$15.1	$17.4	N/A	N/A	N/A
Direct Employment (mine site)	500	559	558	573	537	540	580	N/A	N/A	N/A
Capital Spending ($ millions)	$9	$11	$23	$8	$5	$6	$9	N/A	N/A	N/A

PRECIOUS AND BASE METALS	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Gold										
Production (thousand troy ounces)	98.9	86.4	57.1	50.5	94.8	106.9	131.5	N/A	N/A	N/A
Sales ($ millions)	$33.4	$37.1	$25.8	$25.3	$45.4	$55.8	$67.5	N/A	N/A	N/A
Silver										
Production (thousand troy ounces)	6.1	7.3	nil	nil	nil	nil	nil	N/A	N/A	N/A
Sales ($ millions)	$0.03	$0.04	nil	nil	nil	nil	nil	N/A	N/A	N/A
Base Metals										
Production (million kg)	0.7	0.7	nil	nil	nil	nil	nil	N/A	N/A	N/A
Sales ($ millions)	$1.3	$0.9	nil	nil	nil	nil	nil	N/A	N/A	N/A
Precious and Base Metals										
Revenues ($ millions)*	$1.8	$1.2	$1.3	$1.0	$0.4	$0.7	$1.0	N/A	N/A	N/A
Direct Employment (mine site)	158	100	157	188	232	357	327	N/A	N/A	N/A
Capital Spending ($ millions)	$22	nil	$4.5	$43	$10	$15	$6	N/A	N/A	N/A

Major Saskatchewan Resource Industries Statistical Summary

OTHER** (includes Bentonite, Quarriable Materials, Coal, Uranium, Gold, Silver and Base Metals)	1996	1997	1998	1999	(est) 2000
Production (million tonnes)	10.88	11.69	11.82	11.69	11.22
Sales ($ millions)	$823.9	$750.3	$641.7	$672.6	$614.1
Revenues ($ millions)*	$73.7	$56.9	$47.2	$39.8	$53.4
Direct Employment (mine site)****	2,646	2,825	2,704	2,505	2,252
Capital Spending ($ millions)	$266	$292	$305	$290	$80
Exploration Expenditures ($ millions)***	$36.1	$43.5	$30.1	$23.1	$30.1

* *All revenue figures, including royalties/taxes, are for the fiscal year beginning in the year shown.*

** *Significant changes in the number of companies producing minerals in Saskatchewan occurred in 1998. Regulatory requirements related to confidentiality do not permit commodity specific information to be released where there are less than three producing companies. This information is aggregated and presented in the category "other" which includes Bentonite, Quarriable Materials, Coal, Uranium, Gold, Silver and Base Metals.*

*** *Uranium, Precious and Base Metals, Diamonds, Silica Sand, and Rare Earth Minerals.*

**** *Additionally, approximately 300 Saskatchewan residents are employed at the HBMS operations in Flin Flon, Manitoba.*

Major Saskatchewan Resource Industries Statistical Summary

OTHER MINERALS	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Sodium Sulphate										
Production (million kg)	274.2	283.9	320.4	313.9	313.7	327.3	292.1	287.3	282.9	244.5
Sales ($ millions)	$20.1	$22.5	$25.3	$26.1	$25.6	$31.8	$32.1	$29.8	$25.7	$23.0
Revenues ($ millions)*	$0.7	$1.1	$1.5	$1.2	$1.4	$1.6	$1.5	$1.4	$1.2	$1.0
Direct Employment (mine site)	169	147	136	137	143	152	144	159	119	104
Salt										
Production (million kg)	549.1	578.1	511.9	620.2	701.7	811.2	875.0	750.4	755.8	745.9
Sales ($ millions)	$20.8	$18.1	$24.3	$20.2	$22.5	$27.8	$29.7	$27.8	$19.7	$20.1
Revenues ($ millions)*	$0.6	$0.6	$0.6	$0.6	$0.6	$0.9	$0.8	$0.7	$0.8	$0.7
Direct Employment (mine site)	260	224	205	224	224	219	206	198	183	178
Bentonite and Other Quarriable Materials										
Bentonite Production (million kg)	1.0	4.9	10.5	13.9	12.4	15.3	18.9	N/A	N/A	N/A
Bentonite Sales ($ millions)	$0.1	$0.4	$0.9	$1.1	$1.0	$1.3	$1.6	N/A	N/A	N/A
Quarriable Materials Revenues ($ millions)*	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	N/A	N/A	N/A

MAJOR RESOURCE INDUSTRIES TOTALS

	1991	1992	1993	1994	1995	1996	1997	1998	1999	(est) 2000
Value of Sales/ Production ($ millions)	$2,784.7	$3,104.0	$3,175.3	$4,059.7	$4,501.5	$5,447.5	$5,581.1	$4,680.3	$6,017.0	$8,484.2
Royalties and Other Revenues ($ millions)	$325.2	$396.0	$452.4	$717.7	$673.3	$907.6	$781.5	$622.2	$943.2	$1,292.7
Direct Employment	10,015	10,047	11,174	11,605	12,017	13,275	14,472	12,424	12,647	13,918
Capital Spending ($ millions)	$531	$360	$847.5	$1,295	$1,298	$1,874	$3,021	$1,680	$1,442	$1,875

** All revenue figures, including royalties/taxes, are for the fiscal year beginning in the year shown.*